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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/730,214
Filing Date: December 05, 2003
Appellant(s): HUBER ET AL.

Edward A. Meilman
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 2/1/2011 appealing from the Office action mailed 9/10/2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1 and 11-32.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

6821335	Winter	11-2004
5663326	Patil	5-1997
WO/0234840	Winter	5-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

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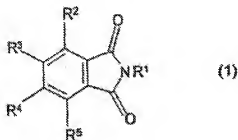
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 11-32 rejected under 35 U.S.C. 103(a) as being unpatentable over Winter et al (WO 02/0234840, cited with equivalent US 6821335) herein WO 02/34840 in view of Patil et al (US 5633326) herein Patil.

WO 02/34840 teaches a pigment dispersant with the following formula:



where

R¹ stands for a straight-chain, branched or cyclic aliphatic radical having 10 to 30 carbon atoms; for an alkenyl radical having 10 to 30 carbon atoms.

R², R³, R⁴ and R⁵ are identical or different and denote hydrogen, C₁-O₁₀ alkyl, C₁-O₁₀ alkoxy, halogen, -OR₆, -NR₆R₇, -COOR₆, -CONR₆R₇, "NR₆" COR₇, SO₂NR₆R₇, -SO₃M, -NO₂, -CN or CF₃, R₆ and R₇ standing for H or an alkyl radical having 1 to 10 carbon atoms and M standing for one equivalent of a 1 to 3 valent cation.

Therefore, when R², R⁴ and R⁵ radicals are Hydrogens and R³ is COOR₆, where R₆ is Hydrogen, the formula above represents imide based on 1,2,4-benzenetricarboxylic anhydride.

WO 02/34840 discloses alkyl benzimide polymeric dispersant for use in printing ink compositions, comprising the reaction product of a alkylene amine with up to C₃₀ aliphatic chain with phthalic anhydride (see Claim 1), where colorant dispersion

comprising at least 45%wt (5-60%wt), 0.1-15% of the dispersant (see Column 3, line 20, meeting the limitations of claims 18-19) and having viscosity lower than 150Pas.

Note that WO 02/34840 does not teach viscosity of the dispersion, having at least 45% of colorant. However, data, presented in Tables (see Column 9 and 10) show that viscosity value at 35% of pigment content is 209 mPa, which is 0.209Pa. Therefore, it would have been obvious to an artisan that viscosity at 45% of colorant would not exceed 150Pa.

Note that although WO 02/34840 discloses long-chain alkyl radical, it does not teach a reaction product, specifically containing polyisobutylene (PIB).

PIB is a branched aliphatic compound of a formula: $(C(CH_3)_2-CH_2)_n$

WO 02/34840 teaches a straight-chain, branched or cyclic aliphatic radical having 10 to 30 carbon atoms (see R1 above). Therefore, disclosure of Winter encompasses the definition of PIB (In other words, WO 02/34840's disclosure may include PIB as a branched alkyl chain with up to 30 carbon atoms).

Polyisobutylene oligomer used in the Application examined has Mn more than 500, which is comparable with C30 alkylene chain disclosed in WO 02/0234840 (at 30 carbons molecular weight of the alkyl chain is equal to 420-450 Daltons, depending on branching. In addition, molecular weight of PIB is not defined in the Claims).

Therefore, the above ingredients are homologs. In accordance to MPEP 2144.09 the

structural analogs are *prima facie* obvious in the absence of showing unexpected results.

Regarding the new limitation of claim 1, claiming "the chain length of the polyisobutylene amine is such as to make the reaction product compatible with a non-polar colorant dispersion", the parameter of compatibility is not defined in the Specification (this fact is admitted by the Applicant, see page 6 of Remarks, dated on 3/15/2010). Examiner believes that alkyl chain of up to 30 carbons is hydrophobic enough to provide such a compatibility.

In reference to amendment to claim 11, claiming "non-polar combination", alkyl chain of up to 30 carbons provides long-chain non-polar fragment.

In addition, Patil teaches a dispersant, based on polyisobutylene succinimide (see Column 13, line 50 and Column 3, line 30).

Patil teaches that the above polymer has very good dispersing properties in wide variety of environment (Column 24, line 45). In addition, due to a presence of tert-butyl group, PIB possesses antioxidant properties.

Therefore, it would have been obvious to a person of ordinary skills in the art to replace C30 alkyl to PIB in WO 02/34840 in order to enhance dispersing properties and increase resistance to oxidation of the composition.

Regarding Claims 13-15, WO 02/34840 discloses laked organic pigments, such as naphthol pigments (Column 3, line 5).

In reference to Claim 16 and new claims 25-26, 30 and 31 WO 02/34840 does not disclose pigments listed in the claim. However, WO 02/34840 teaches the following examples of organic pigments in the sense of the invention are monoazo pigments, diazo pigments, disazo condensation pigments, laked azo pigments, triphenylmethane pigments, thioindigo pigments, thiazine indigo pigments, perylene pigments, perinone pigments, anthanthrone pigments, diketopyrrolopyrrole pigments, dioxazine pigments, quinacridone pigments, phthalocyanine pigments, isoindolinone pigments, isoindoline pigments, benzimidazolone pigments, naphthol pigments and quinophthalone pigments, preference being given to anthanthrone pigments, dioxazine pigments, and phthalocyanine pigments, and also acid to alkaline carbon blacks from the group of the furnace blacks or gas blacks.

Examples of Suitable inorganic pigments are titanium dioxides, zinc sulfides, iron oxides, chromium oxides, ultramarine, nickel and chromium antimony titanium oxides, cobalt oxides, and bismuth vanadates.

The position is taken that the above pigments encompass the ones listed in the claim 16.

Regarding Claim 17 and new claim 27, WO 02/34840 does not disclose 65% colorant present.

WO 02/34840 teaches 5-60% wt of colorant.

In the relevant case law (see *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985), where Claims to titanium (Ti) alloy with 0.8% nickel (Ni) and 0.3% molybdenum (Mo) were not anticipated by, although they were held obvious over, a graph in a Russian article on Ti-Mo-Ni alloys in which the graph contained an actual data point corresponding to a Ti alloy containing 0.25% Mo and 0.75% Ni. (see also MPEP 2131.03).

Therefore, it would have been obvious to a person of ordinary skills in the art to increase colorant load in WO 02/34840 to 65% wt, make the composition more economically efficient.

The ingredient content is close enough to one of the claim (i.e. 60% wt vs 65% wt) that an artisan would expect the respective compositions to have the same properties.

Regarding Claims 20-21, WO 02/34840 discloses broad range of applications, such as colorants for electrophotographic toners, sprayable colorants. It is cover variety of shapes and materials, such as glass, ceramic, concrete, etc. Therefore, the above composition is applicable as lithographic printing ink.

Regarding new claims 22-24, 28, 29 and 31 WO 02/34840 discloses a polyalkyl benzimide polymeric dispersant for use in printing ink compositions, comprising the reaction product of a polyalkylene amine with up to C30 aliphatic chain with phthalic anhydride (see Claim 1), where colorant dispersion comprising at least 45%wt (5-60%wt), 0.1-15% of the dispersant (see Column 3, line 20) and having viscosity lower than 150 Pas.

(10) Response to Argument

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Appellant argue that there are too many compounds, falling within the scope of Winter's general formula 1. In particular, Appellant submits that choosing R3 as COOR6, where R6 is Hydrogen is improbable. In addition, Appellant argues that trimellitic anhydride is not named anywhere in the Winter's reference.

However, when the species is clearly named, the species claim is anticipated no matter how many other species are additionally named. *Ex parte A*, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990) See also MPEP 2131.02.

In Winter's formula (1), when R2, R4 and R5 radicals are Hydrogens and R3 is COOR6, where R6 is Hydrogen, the formula above represents imide based on 1,2,4-benzenetricarboxylic anhydride. Note that the assignments to the groups above are within the scope of Winter's disclosure.

In addition, Winter discloses a carboxyl group as preferred ones (see Column 2, line 40).

Appellant argues that Rejection does not have any motivation to choose polyisobutylene (PIB) over other hydrocarbons. Regarding PIB, Appellant submits that it should contain at least 50 carbons in order to be compatible with non-polar colorants.

This is incorrect. Firstly, Winter discloses an alkyl chain (straight or branched) up to 30 Carbons length. Patil teaches PIB, which provides both dispersant and antioxidant properties (see Column 3, line 30).

Secondly, where is no teaching in the Specification, regarding Molecular weight or chain length of PIB.

Thirdly, criticality of Molecular weight value and structure of PIB is not demonstrated by the Appellant. Specification only discloses that commercial PIB modified oligomer Kerocom Piba 03 is applied.

Appellant submits that there is nothing in these or any other portion of Patil's disclosure which teaches that any fragment of a material disclosed therein can impart dispersant properties to a colorant or in a polar dispersion. In addition, Appellant submits that the PIB role in Patil's dispersant structure is unclear.

Examiner disagrees. Patil discloses the materials which applied for the same purposes as ones of Winter and Application (i.e. dispersants in oil-water type systems).

Accordingly, they have the same principal components, such as hydrophilic Nitrogen containing core and and lipophilic tail.

Appellant challenges the statement from the Final Rejection that Winter discloses a pigment dispersant.

Examiner disagrees. Winter clearly discloses that the purpose of phthalic acid imide in pigment composition is to improve its dispersability (see Column 1, line 25).

Appellant submits that Winter discloses aqueous media, while Patil teaches oil lubrication.

However, Patil teaches that his dispersant is applicable in wide variety of media (see Column 24, line 45).

In summary, Appellant challenges two structural features of Winter's formula (1):

1. R3 being COOH
2. R1 denotes as PIB. The polymer (or oligomer) chain has of at least 50 carbons.

However, Appellant has not presented any data showing criticality of the structural parameters above. All arguments presented in the Brief provide only evidential support to the statements above without any factual data to demonstrate unexpected results.

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Gregory Listvoyb

Conferees:

/David Wu/

Supervisory Patent Examiner, Art Unit 1796

/Christine Tierney/

Supervisory Patent Examiner, Art Unit 1700